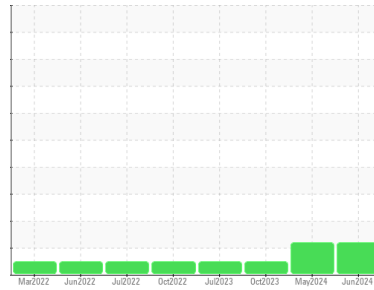




# OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Machine Id  
**920030**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

## DIAGNOSIS

### Recommendation

We advise that you check for the source of the coolant leak. Check for low coolant level. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

### Wear

All component wear rates are normal.

### Contamination

Sodium and/or potassium levels remain high.

### Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>GFL0125449</b>	GFL0116143	GFL0092626
Sample Date	Client Info		<b>28 Jun 2024</b>	20 May 2024	18 Oct 2023
Machine Age	hrs	Client Info	<b>32139</b>	32022	31044
Oil Age	hrs	Client Info	<b>117</b>	598	576
Oil Changed	Client Info		<b>Changed</b>	Changed	Not Changed
Sample Status			<b>ABNORMAL</b>	ABNORMAL	NORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<b>&lt;1.0</b>	<1.0	<1.0
Water	WC Method	>0.2	<b>NEG</b>	NEG	NEG

## WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>120	<b>6</b>	9	21
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	0	<1
Nickel	ppm	ASTM D5185m	>5	<b>&lt;1</b>	0	<1
Titanium	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m	>2	<b>&lt;1</b>	<1	0
Aluminum	ppm	ASTM D5185m	>20	<b>3</b>	2	5
Lead	ppm	ASTM D5185m	>40	<b>2</b>	8	2
Copper	ppm	ASTM D5185m	>330	<b>7</b>	12	2
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	0	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Cadmium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m	0	<b>11</b>	23	0
Barium	ppm	ASTM D5185m	0	<b>&lt;1</b>	0	0
Molybdenum	ppm	ASTM D5185m	60	<b>71</b>	85	62
Manganese	ppm	ASTM D5185m	0	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	1010	<b>890</b>	963	1000
Calcium	ppm	ASTM D5185m	1070	<b>1044</b>	1085	1082
Phosphorus	ppm	ASTM D5185m	1150	<b>1015</b>	1132	1087
Zinc	ppm	ASTM D5185m	1270	<b>1183</b>	1339	1343
Sulfur	ppm	ASTM D5185m	2060	<b>2789</b>	3887	3056

## CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>25	<b>11</b>	22	24
Sodium	ppm	ASTM D5185m		<b>▲ 193</b>	▲ 601	12
Potassium	ppm	ASTM D5185m	>20	<b>6</b>	15	3
Glycol	%	*ASTM D2982		<b>NEG</b>	NEG	NEG

## INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844	>4	<b>0.2</b>	0.2	0.9
Nitration	Abs/cm	*ASTM D7624	>20	<b>7.0</b>	8.4	10.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>18.5</b>	18.4	21.8

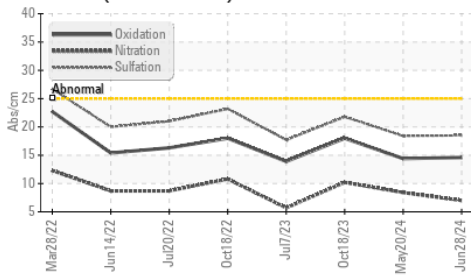
## FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>14.6</b>	14.4	18.0
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	<b>9.8</b>	11.0	7.5

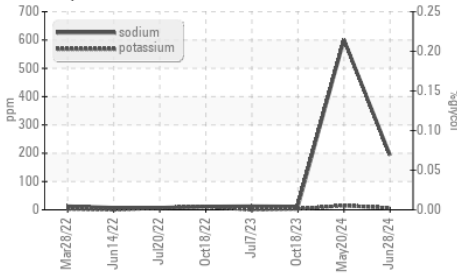


# OIL ANALYSIS REPORT

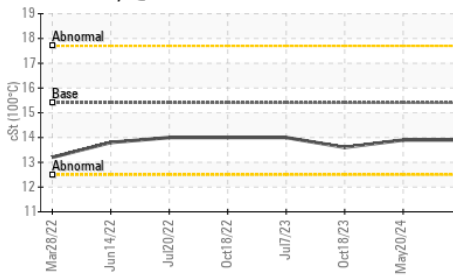
FT-IR (Direct Trend)



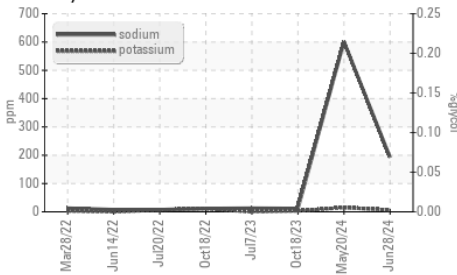
Glycol Contamination



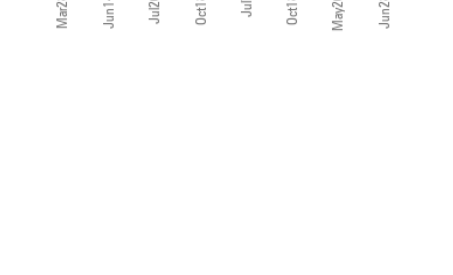
Viscosity @ 100°C



Glycol Contamination



Viscosity @ 100°C

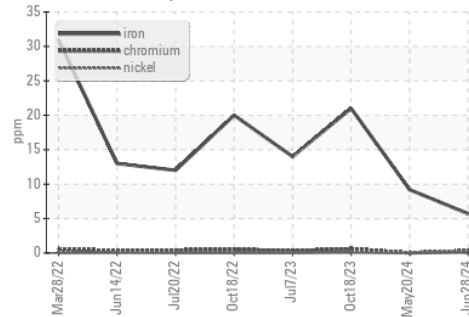


PARAMETER	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

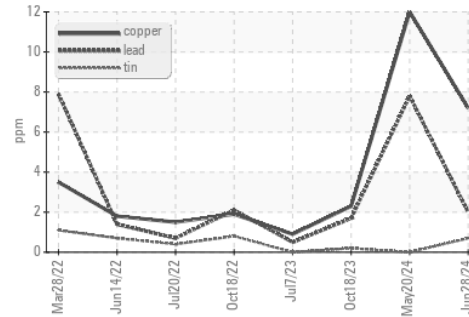
PARAMETER	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.9	13.6

## GRAPHS

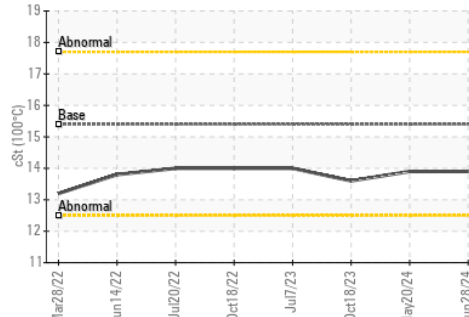
Ferrous Alloys



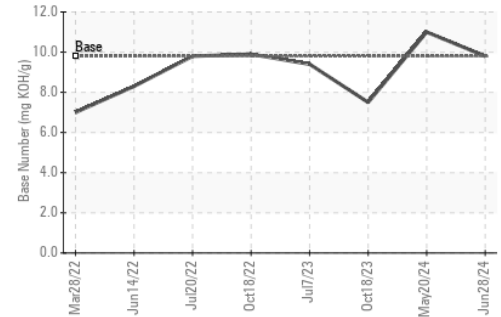
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
 Sample No. : GFL0125449  
 Lab Number : 06226073  
 Unique Number : 11109566  
 Test Package : FLEET ( Additional Tests: Glycol )

GFL Environmental - 947 - WB Horicon HC  
 N7296 County Rd V  
 Horicon, WI  
 US 53032  
 Contact: Tim Kieffer  
 tim.kieffer@gflenv.com  
 T: (608)219-0288  
 F:

To discuss this sample report, contact Customer Service at 1-800-237-1369.

\* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)